

# SPECIFICATIONS

## Liquid Chromatography



### LC 300 HPLC and UHPLC Systems

For laboratories focused on achieving high levels of efficiency, without compromise on productivity, the PerkinElmer LC 300 HPLC and UHPLC System offers flexibility, performance and efficiency even for the most challenging analytical demands. With fully customizable configurations and accessories, each LC 300 HPLC and UHPLC System is intuitive and designed to meet high-throughput laboratory requirements, with no additional burden on the staff. PerkinElmer SimplicityChrom™ CDS Software manages the complete workflow and with the LC 300 HPLC and UHPLC System delivers an innovative user experience with intuitive functions, automated processes.



## SPECIFICATIONS

### LC 300 Analytical Pump

#### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ Unidirectional Pumping Technology</li> <li>▪ Reversed phase, Normal Phase, IEX, SEC (GPC/GFC) solvent compatibility</li> <li>▪ Fully automatic and continuous compressibility compensation</li> <li>▪ Integrated 4-solvent degassing</li> </ul>
Solvent Selection	4 solvents (A,B,C,D) supported with quaternary solvent blending
Safety Features	Adjustable maximum and minimum pressure limits

U.S. Patent No. 4,643,649

#### OPERATING SPECIFICATIONS

Pressure Range	0 – 6,100 psi / 0 – 420 bar for the entire flow-rate range
Flow Range	0.01 to 10.0 mL/min
Flow Rate Increments	0.01 from 0 to 0.99 mL/min 0.1 from 1.0 to 10 mL/min
Flow Precision	0.3% RSD (typical 0.1%) at 1 mL/min and 1000 psi with water
Flow Accuracy	± 1% of setting at 1 mL/min and 1000 psi with water
Retention Time Reproducibility	<0.3% RSD (typically <0.1%)
Compositional Range	0 - 100 %, solvents A,B,C,D
Solvent Blending Increments	Settable to 0.1% increments
Composition Accuracy	Typically 0.5% from 3 to 97% up to 5 mL/min
Composition Precision	Typically <0.2% variation
Gradient Delay Volume	700 µL
Gradient Profiles	Linear, exponential 1 to 9.9 (positive and negative), or step (89 profile selections (linear, step, concave and convex: 1 to 9.9 positive and negative))

#### POWER REQUIREMENTS

Voltage Requirements	100 – 240 V
Line Frequency	50 – 60 Hz
Power Consumption	129 VA

#### PHYSICAL AND ENVIRONMENTAL

pH Range	All wetted materials are suitable for pH range 1.0 - 14.0
Dimensions	56 cm L x 34.5 cm W x 16.8 cm H / 22 in L x 13.5 in W x 6.6 in H
Weight	20 kg / 44 lb
Operating Humidity	20 - 80% non-condensing
Operating Temperature	15 - 10 °C

## LC 300 (Binary) HPLC Pump

### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ High pressure dual series piston pump with individually driven pistons</li> <li>▪ Patent pending pump head design</li> <li>▪ Automated self-priming with integrated prime pump and auto purge valve</li> <li>▪ Fully automatic and continuous compressibility compensation</li> <li>▪ Dedicated piston seal wash pump with selectable seal wash speeds</li> <li>▪ Integrated solvent degassing</li> </ul>
Solvent Selection	4 solvents available with binary solvent delivery (A1/A2 and B1/B2)
Safety Features	<ul style="list-style-type: none"> <li>▪ Adjustable maximum and minimum pressure limits</li> <li>▪ Solvent leak detection with automatic pump shutdown</li> </ul>

### OPERATING SPECIFICATIONS

Pressure Range	0 - 10,000 psi / 0 - 690 bar
Pressure Ripple	< 1 % of system pressure or < 72 psi (5 bar), whichever is greater
Flow Range	1 - 3,000 $\mu$ L/min
Flow Rate Increments	1.0 $\mu$ L/min increments
Flow Precision	$\leq$ 0.075 % RSD or 0.005 minutes SD, whichever is greater*
Flow Accuracy	$\pm$ 1 % or $\pm$ 10 $\mu$ L/min, whichever is greater*
Compositional Range	0 - 100 %
Composition Accuracy	$\pm$ 0.5 % absolute from 5 - 95 %**
Composition Precision	$\leq$ 0.15 % RSD or 0.021 minute SD, whichever is greater*
Gradient Delay Volume	115 $\mu$ L (w/ 100 $\mu$ L mixer)
Gradient Profiles	Linear, concave (4) and convex (4)

\* Condition: Water in a flow range of >0.200 - 2.000 mL/min

\*\* Condition: Methanol/Methanol with Caffeine in a flow range >0.500 mL/min

### POWER REQUIREMENTS

Voltage Requirements	100 – 230 V
Line Frequency	50 – 60 Hz
Power Consumption	450 VA

### PHYSICAL AND ENVIRONMENTAL

pH Range	All wetted materials are suitable for pH range 1.0 - 10.0
Dimensions	56 cm L x 34.5 cm W x 16.8 cm H / 22 in L x 13.5 in W x 6.6 in H
Weight	21 kg / 46 lb
Operating Humidity	20 - 80% non-condensing
Operating Temperature	10 - 40 °C

## LC 300 Quaternary HPLC Pump

### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ High pressure dual series piston pump with individually driven pistons</li> <li>▪ Patent pending pump head design</li> <li>▪ Automated self-priming with integrated prime pump and auto purge valve</li> <li>▪ Fully automatic and continuous compressibility compensation</li> <li>▪ Dedicated piston seal wash pump with selectable seal wash speeds</li> <li>▪ Integrated solvent degassing</li> </ul>
Solvent Selection	4 solvents (A,B,C,D) supported with quaternary solvent blending
Safety Features	<ul style="list-style-type: none"> <li>▪ Adjustable maximum and minimum pressure limits</li> <li>▪ Solvent leak detection with automatic pump shutdown</li> </ul>

### OPERATING SPECIFICATIONS

Pressure Range	0 - 10,000 psi / 0 - 690 bar
Pressure Ripple	< 1 % of system pressure or < 72 psi (5 bar), whichever is greater
Flow Range	1 - 2,000 $\mu$ L/min
Flow Rate Increments	1.0 $\mu$ L/min increments
Flow Precision	$\leq$ 0.075 % RSD or 0.005 minutes SD, whichever is greater*
Flow Accuracy	$\pm$ 1 % or $\pm$ 10 $\mu$ L/min, whichever is greater*
Compositional Range	0 - 100 %
Composition Accuracy	$\pm$ 0.5 % absolute from 5 - 95 %**
Composition Precision	$\leq$ 0.15 % RSD or 0.021 minute SD, whichever is greater*
Gradient Delay Volume	< 700 $\mu$ L (w/ 150 $\mu$ L mixer)
Gradient Profiles	Linear, concave (4) and convex (4)

\* Condition: Water in a flow range of >0.200 - 2.000 mL/min

\*\* Condition: Methanol/Methanol with Caffeine in a flow range >0.500 mL/min

### POWER REQUIREMENTS

Voltage Requirements	100 – 230 V
Line Frequency	50 – 60 Hz
Power Consumption	450 VA

### PHYSICAL AND ENVIRONMENTAL

pH Range	All wetted materials are suitable for pH range 1.0 - 10.0
Dimensions	56 cm L x 34.5 cm W x 16.8 cm H / 22 in L x 13.5 in W x 6.6 in H
Weight	21 kg / 46 lb
Operating Humidity	20 - 80% non-condensing
Operating Temperature	10 - 40 °C

## LC 300 (Binary) UHPLC Pump

### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ High pressure dual series piston pump with individually driven pistons</li> <li>▪ Patent pending pump head design</li> <li>▪ Automated self-priming with integrated prime pump and auto purge valve</li> <li>▪ Fully automatic and continuous compressibility compensation</li> <li>▪ Dedicated piston seal wash pump with selectable seal wash speeds</li> <li>▪ Integrated solvent degassing</li> </ul>
Solvent Selection	4 solvents available with binary solvent delivery (A1/A2 and B1/B2)
Safety Features	<ul style="list-style-type: none"> <li>▪ Adjustable maximum and minimum pressure limits</li> <li>▪ Solvent leak detection with automatic pump shutdown</li> </ul>

### OPERATING SPECIFICATIONS

Pressure Range	0 - 18,000 psi / 0 - 1240 bar
Pressure Ripple	< 1 % of system pressure or < 72 psi (5 bar), whichever is greater
Flow Range	1 - 2,000 $\mu$ L/min
Flow Rate Increments	1.0 $\mu$ L/min increments
Flow Precision	$\leq$ 0.075 % RSD or 0.005 minutes SD, whichever is greater*
Flow Accuracy	$\pm$ 1 % or $\pm$ 10 $\mu$ L/min, whichever is greater*
Compositional Range	0 - 100 %
Composition Accuracy	$\pm$ 0.5 % absolute from 5 - 95 %**
Composition Precision	$\leq$ 0.15 % RSD or 0.021 minute SD, whichever is greater*
Gradient Delay Volume	50 $\mu$ L (w/ 35 $\mu$ L mixer)
Gradient Profiles	Linear, concave (4) and convex (4)

\* Condition: Water in a flow range of >0.200 - 2.000 mL/min

\*\* Condition: Methanol/Methanol with Caffeine in a flow range >0.500 mL/min

### POWER REQUIREMENTS

Voltage Requirements	100 – 230 V
Line Frequency	50 – 60 Hz
Power Consumption	450 VA

### PHYSICAL AND ENVIRONMENTAL

pH Range	All wetted materials are suitable for pH range 1.0 - 10.0
Dimensions	56 cm L x 34.5 cm W x 16.8 cm H / 22 in L x 13.5 in W x 6.6 in H
Weight	21 kg / 46 lb
Operating Humidity	20 - 80% non-condensing
Operating Temperature	10 - 40 °C

## LC 300 Quaternary UHPLC Pump

### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ High pressure dual series piston pump with individually driven pistons</li> <li>▪ Patent pending pump head design</li> <li>▪ Automated self-priming with integrated prime pump and auto purge valve</li> <li>▪ Fully automatic and continuous compressibility compensation</li> <li>▪ Dedicated piston seal wash pump with selectable seal wash speeds</li> <li>▪ Integrated solvent degassing</li> </ul>
Solvent Selection	4 solvents (A,B,C,D) supported with quaternary solvent blending
Safety Features	<ul style="list-style-type: none"> <li>▪ Adjustable maximum and minimum pressure limits</li> <li>▪ Solvent leak detection with automatic pump shutdown</li> </ul>

### OPERATING SPECIFICATIONS

Pressure Range	0 - 18,000 psi / 0 - 1240 bar
Pressure Ripple	< 1 % of system pressure or < 72 psi (5 bar), whichever is greater
Flow Range	1 - 2,000 $\mu$ L/min
Flow Rate Increments	1.0 $\mu$ L/min increments
Flow Precision	$\leq$ 0.075 % RSD or 0.005 minutes SD, whichever is greater*
Flow Accuracy	$\pm$ 1 % or $\pm$ 10 $\mu$ L/min, whichever is greater*
Compositional Range	0 - 100 %
Composition Accuracy	$\pm$ 0.5 % absolute from 5 - 95 %**
Composition Precision	$\leq$ 0.15 % RSD or 0.021 minute SD, whichever is greater*
Gradient Delay Volume	<700 $\mu$ L (w/ 150 $\mu$ L mixer)
Gradient Profiles	Linear, concave (4) and convex (4)

\* Condition: Water in a flow range of >0.200 - 2.000 mL/min

\*\* Condition: Methanol/Methanol with Caffeine in a flow range >0.500 mL/min

### POWER REQUIREMENTS

Voltage Requirements	100 – 230 V
Line Frequency	50 – 60 Hz
Power Consumption	450 VA

### PHYSICAL AND ENVIRONMENTAL

pH Range	All wetted materials are suitable for pH range 1.0 - 10.0
Dimensions	56 cm L x 34.5 cm W x 16.8 cm H / 22 in L x 13.5 in W x 6.6 in H
Weight	21 kg / 46 lb
Operating Humidity	20 - 80% non-condensing
Operating Temperature	10 - 40 °C

## LC 300 HPLC Autosampler

### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ System status display</li> <li>▪ Built-in oven with integrated preheater</li> <li>▪ Patented ILD™ injection valve<sup>1</sup></li> <li>▪ Automated dilution and derivatization capabilities</li> <li>▪ Support for multiple sample vial and tray formats</li> </ul>
Safety Features	Door interlock sensor

<sup>1</sup> U.S. Patent No. 8,322,197 B2, European Patent No. 2196801

### OPERATING SPECIFICATIONS

Maximum Operating Pressure	0 - 10,000 psi / 0 - 690 bar
Injection Modes	Full-loop, partial loop-fill, $\mu$ L pickup
Injection Volume	Programmable from 1 – 2,500 $\mu$ L in 1 $\mu$ L increments
Injection Precision	Full-loop injection $\leq$ 0.3 % RSD; Partial loop-fill $\leq$ 0.5 % RSD; $\mu$ L pickup $\leq$ 1.0 % RSD
Injection Cycle Time	< 20 seconds typical in partial loop mode
Carryover	$\leq$ 0.005%
Sample Temperature Control	4 - 40 °C (with Peltier)
Integrated Column Oven	Temperature range: Ambient+5 to 60 °C; Accuracy: $\pm$ 1 °C Maximum column length: 150 mm

### POWER REQUIREMENTS

Voltage Requirements	100 – 240 V
Line Frequency	50 – 60 Hz
Power Consumption	320 VA

### PHYSICAL AND ENVIRONMENTAL

Dimensions	56 cm L x 34.5 cm W x 34.6 cm H / 22 in L x 13.5 in W x 13.6 in H
Weight	19 kg / 42 lb (without Peltier); 21 kg / 46.3 lb (with Peltier)
Operating Humidity	20 - 80% non-condensing
Operating Temperature	10 - 40 °C

### PHYSICAL AND ENVIRONMENTAL

Standard Configuration	Needle	Syringe	Buffer Tubing	Sample Loop
	15 $\mu$ L	500 $\mu$ L	1000 $\mu$ L	100 $\mu$ L
Wetted Parts	SS316, PTFE, TEFZEL, VESPEL, DLC, glass			
Syringe Volume	100, 250, 500 and 1000 $\mu$ L			
Tray Types/Microtiter Plates Supported	<ul style="list-style-type: none"> <li>▪ 100-vial tray: 2-mL vials (standard)</li> <li>▪ 85-vial tray: 80 2-mL vials plus 5 6-mL vials</li> <li>▪ 80-vial dilution tray: 80 2-mL vials plus 60-mL dilution tank</li> <li>▪ 205-vial tray: 200 0.2-mL micro vials plus 5 2-mL vials</li> <li>▪ 25-vial tray: 25 6-mL vials</li> <li>▪ 2 x 96-well microtiter plate, high (deep)</li> <li>▪ 2 x 96-well microtiter plate, low (shallow)</li> <li>▪ 2 x 384-well microtiter plate</li> </ul> All trays compatible with cooling, heating, and missing vial/plate detection			

## LC 300 UHPLC Autosampler

### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ System status display</li> <li>▪ Built-in oven with integrated preheater</li> <li>▪ Patented ILD™ injection valve<sup>1</sup></li> <li>▪ Automated dilution and derivatization capabilities</li> <li>▪ Support for multiple sample vial and tray formats</li> </ul>
Safety Features	Door interlock sensor

<sup>1</sup> U.S. Patent No. 8,322,197 B2, European Patent No. 2196801

### OPERATING SPECIFICATIONS

Maximum Operating Pressure	0 - 18,000 psi / 0 - 1240 bar
Injection Modes	Full-loop, partial loop-fill, $\mu$ L pickup
Injection Volume	Programmable from 1 – 2,500 $\mu$ L in 1 $\mu$ L increments
Injection Precision	Full-loop injection $\leq$ 0.3 % RSD; Partial loop-fill $\leq$ 0.5 % RSD; $\mu$ L pickup $\leq$ 1.0 % RSD
Injection Cycle Time	< 20 seconds typical in partial loop mode
Carryover	$\leq$ 0.005%
Sample Temperature Control	4 - 40 °C (with Peltier)
Integrated Column Oven	Temperature range: Ambient+5 to 60 °C; Accuracy: $\pm$ 1 °C Maximum column length: 150 mm

### POWER REQUIREMENTS

Voltage Requirements	100 – 240 V
Line Frequency	50 – 60 Hz
Power Consumption	320 VA

### PHYSICAL AND ENVIRONMENTAL

Dimensions	56 cm L x 34.5 cm W x 34.6 cm H / 22 in L x 13.5 in W x 13.6 in H
Weight	19 kg / 42 lb (without Peltier); 21 kg / 46.3 lb (with Peltier)
Operating Humidity	20 - 80% non-condensing
Operating Temperature	10 - 40 °C

### PHYSICAL AND ENVIRONMENTAL

Standard Configuration	Needle	Syringe	Buffer Tubing	Sample Loop
	15 $\mu$ L	250 $\mu$ L	500 $\mu$ L	20 $\mu$ L
Wetted Parts	SS316, PTFE, TEFZEL, VESPEL, DLC, glass			
Syringe Volume	100, 250, 500 and 1000 $\mu$ L			
Tray Types/Microtiter Plates Supported	<ul style="list-style-type: none"> <li>▪ 100-vial tray: 2-mL vials (standard)</li> <li>▪ 85-vial tray: 80 2-mL vials plus 5 6-mL vials</li> <li>▪ 80-vial dilution tray: 80 2-mL vials plus 60-mL dilution tank</li> <li>▪ 205-vial tray: 200 0.2-mL micro vials plus 5 2-mL vials</li> <li>▪ 25-vial tray: 25 6-mL vials</li> <li>▪ 2 x 96-well microtiter plate, high (deep)</li> <li>▪ 2 x 96-well microtiter plate, low (shallow)</li> <li>▪ 2 x 384-well microtiter plate</li> </ul> All trays compatible with cooling, heating, and missing vial/plate detection			



## LC 300 Column Oven

### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ Integrated solvent preheater</li> <li>▪ Optional column selection valve allows automated column switching of up to 6 columns</li> <li>▪ Peltier heating/cooling</li> <li>▪ Accommodates longer columns (up to 30 cm)</li> </ul>
Safety Features	Temperature and vapor safety sensors with alarm and shutoff

### OPERATING SPECIFICATIONS

Temperature Range	5 – 90 °C, with 1 °C increments 5 – 75 °C, with 1 °C increments (if optional Column Selection Valve is installed)
Temperature Accuracy	Better than 0.1 °C
Temperature Stability	Better than 0.1 °C
Temperature Rate	Heat @ 10 °C/min from 40 to 60 °C Cool @ 2 °C/min from 60 to 40 °C

### POWER REQUIREMENTS

Voltage Requirements	100 – 240 V
Line Frequency	50 – 60 Hz
Power Consumption	454 VA

### PHYSICAL AND ENVIRONMENTAL

Dimensions	56 cm L x 16.8 cm W x 58.4 cm H / 22 in L x 6.6 in W x 23 in H
Weight	16 kg / 35 lb
Operating Humidity	20 - 80% non-condensing
Operating Temperature	10 - 40 °C

## LC 300 Photodiode Array Detector

### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ Patented fiber optic flow cell technology<sup>2</sup></li> <li>▪ Self-aligning Flow Cell and lamp</li> <li>▪ Integrated solvent tray</li> </ul>
Safety Features	<ul style="list-style-type: none"> <li>▪ Temperature sensors</li> <li>▪ Leak sensor</li> </ul>

<sup>2</sup> US Patent Numbers US8797528, US8947654, and US9025142; Chinese Patent Number CN204945029; EU Patent Allowed EP13780024.9

### OPERATING SPECIFICATIONS

Wavelength Range	190 – 700 nm
Wavelength Accuracy	± 0.5 nm
Optical Resolution	4 nm
Photodiodes	1024
Digital Resolution	0.6 nm
Linearity Range	<3 % at 2 AU
Baseline Noise	<8 µAU
Drift	<0.5 mAU/hr
Sampling Rate	0.5 – 200 points/s (Hz)
Leak Detection	Heated thermistor sensor in glass envelope, located in flow cell drip tray

### OPTICAL COMPONENTS

Light Source	Deuterium Lamp
Flow Cell Design	Liquid core waveguide

### POWER REQUIREMENTS

Voltage Requirements	100 – 240 V
Line Frequency	50 – 60 Hz
Power Consumption	140 VA

### PHYSICAL AND ENVIRONMENTAL

Dimensions	56 cm L x 34.5 cm W x 24.1 cm H / 22 in L x 13.5 in W x 9.5 in H
Weight	19 kg / 42 lb
Operating Humidity	20 - 80% non-condensing
Operating Temperature	10 - 35 °C

### FLOW CELLS

Path Length	10 mm or (optional) 50 mm
Cell Volume	1 µL (with 10 mm flow cell) or 5 µL (with optional 50 mm flow cell)
Pressure Limit	1500 psi
Wetted Materials	Fused silica, PEEK, PTFE AF, Titanium

## LC 300 Multi-Wavelength Detector

### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ Patented fiber optic flow cell technology<sup>2</sup></li> <li>▪ Self-aligning Flow Cell and lamp</li> <li>▪ Upgradeable to full-featured Photodiode Array detector</li> <li>▪ Integrated solvent tray</li> </ul>
Safety Features	<ul style="list-style-type: none"> <li>▪ Temperature sensors</li> <li>▪ Leak sensor</li> </ul>

<sup>2</sup> US Patent Numbers US8797528, US8947654, and US9025142; Chinese Patent Number CN204945029; EU Patent Allowed EP13780024.9

### OPERATING SPECIFICATIONS

Number of Channels	Up to 8
Wavelength Range	190 – 790 nm
Wavelength Accuracy	± 0.5 nm
Optical Resolution	4 nm
Photodiodes	1024
Digital Resolution	0.6 nm
Linearity Range	<3 % at 2 AU
Baseline Noise	<8 µAU
Drift	<0.5 mAU/hr
Sampling Rate	0.5 – 200 points/s (Hz)
Leak Detection	Heated thermistor sensor in glass envelope, located in flow cell drip tray

### OPTICAL COMPONENTS

Light Source	Deuterium Lamp
Flow Cell Design	Liquid core waveguide

### POWER REQUIREMENTS

Voltage Requirements	100 – 240 V
Line Frequency	50 – 60 Hz
Power Consumption	140 VA

### PHYSICAL AND ENVIRONMENTAL

Dimensions	56 cm L x 34.5 cm W x 24.1 cm H / 22 in L x 13.5 in W x 9.5 in H
Weight	19 kg / 42 lb
Operating Humidity	20 - 80% non-condensing
Operating Temperature	10 - 35 °C

### FLOW CELLS

Path Length	10 mm or (optional) 50 mm
Cell Volume	1 µL (with 10 mm flow cell) or 5 µL (with optional 50 mm flow cell)
Pressure Limit	1500 psi
Wetted Materials	Fused silica, PEEK, PTFE AF, Titanium

## LC 300 UV/Vis Detector

### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ Self-aligning Flow Cell and lamp</li> <li>▪ Integrated solvent tray</li> </ul>
Safety Features	<ul style="list-style-type: none"> <li>▪ Leak sensor</li> </ul>

### OPERATING SPECIFICATIONS

Wavelength Range	190 – 700 nm
Wavelength Accuracy	± 1 nm
Wavelength Precision	± 1 nm
Slit Width	5 nm
Linearity Range	≥2.5 AU (with 5% deviation)
Sampling Rate	Up to 100 points/s (Hz)
Sensitivity Range	0.0005 to 3.000 AUFS in 0.0001 increments from 0.0005 to 0.1, and 0.01 increments above 0.1 AUFS
Noise	<7.5 x 10 <sup>-6</sup> AU, 210 - 280 nm, 2 sec response time, std test cell
Drift	<1 x 10 <sup>-4</sup> AU/hr, after warmup
Leak Detection	Heated thermistor sensor in glass envelope, located in flow cell drip tray

### OPTICAL COMPONENTS

Optics	Dual beam
Light Sources	Deuterium (190 - 360 nm) or Tungsten (360 - 700 nm), pre-focused, no adjustment required on replacement

### POWER REQUIREMENTS

Voltage Requirements	100 – 240 V
Line Frequency	50 – 60 Hz
Power Consumption	130 VA

### PHYSICAL AND ENVIRONMENTAL

Dimensions	56 cm L x 34.5 cm W x 24.1 cm H / 22 in L x 13.5 in W x 9.5 in H
Weight	19 kg / 42 lb
Operating Humidity	20 - 80% non-condensing
Operating Temperature	10 - 30 °C

### FLOW CELLS

Path Length	6 mm
Cell Volume	2.4 µL
Pressure Limit	750 psi / 34 bar
Wetted Materials	Black PVX, PEEK, quartz

## LC 300 Fluorescence Detector

### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ Axially irradiated flow cell</li> <li>▪ Integrated mercury lamp</li> </ul>
Safety Features	<ul style="list-style-type: none"> <li>▪ Temperature sensors</li> <li>▪ Leak sensor</li> <li>▪ Lamp door safety interlock</li> </ul>

### OPERATING SPECIFICATIONS

Settable Wavelength Range	200 to 900 nm (for EX and EM wavelengths)
Measuring Wavelength Range	220 to 700 nm (for EX and EM wavelengths)
Slit Width Emission	20 nm or 40 nm (selectable)
Wavelength Accuracy	± 2 nm
Wavelength Repeatability	± 0.2 nm
Sensitivity (S/N)	1400:1 RMS Water Raman Baseline Method

### OPTICAL COMPONENTS

Monochromator	Holographic concave diffraction gratings (EX and EM)
Light Source	150 W Xenon lamp
Detectors	Excitation: Photodiode Emission: Photomultiplier tube

### POWER REQUIREMENTS

Voltage Requirements	100 – 240 V
Line Frequency	50 – 60 Hz
Power Consumption	230 VA

### PHYSICAL AND ENVIRONMENTAL

Dimensions	56 cm L x 34.5 cm W x 29.5 cm H / 22 in L x 13.5 in W x 11.6 in H
Weight	31 kg / 69 lb
Operating Humidity	35 - 85% non-condensing
Operating Temperature	10 - 30 °C

### FLOW CELLS

Flow Cell Volume	12.7 µL standard 4 µL (optional flow cell available)
Maximum Pressure	580 psi / 40 bar
Wetted Materials	Synthetic quartz, fluoropolymer, and stainless steel (SUS316)

## LC 300 Refractive Index Detector

### KEY DESIGN COMPONENTS

Technology	<ul style="list-style-type: none"> <li>▪ Long-life LED light source</li> <li>▪ Optical system mounted within a precisely temperature-controlled housing</li> <li>▪ Programmable purge</li> <li>▪ Programmable polarity switching</li> </ul>
Safety Features	<ul style="list-style-type: none"> <li>▪ Temperature sensors</li> <li>▪ Leak sensor</li> </ul>

### OPERATING SPECIFICATIONS

Refractive Index Range	1.00 to 1.75
Measurement Range	<ul style="list-style-type: none"> <li>▪ High: <math>50 \times 10^{-6}</math> RIU/1V</li> <li>▪ Standard: <math>500 \times 10^{-6}</math> RIU/1V</li> <li>▪ Low: <math>5000 \times 10^{-6}</math> RIU/1V</li> </ul>
Linearity	<ul style="list-style-type: none"> <li>▪ High: <math>5 \times 10^{-5}</math> RIU</li> <li>▪ Standard: <math>5 \times 10^{-4}</math> RIU</li> <li>▪ Low: <math>5 \times 10^{-3}</math> RIU</li> </ul>
Noise	$\leq 0.20 \times 10^{-8}$ RIU
Drift	$\leq 200 \mu\text{V/h}$ (0.1 $\mu\text{RIU/h}$ )
Temperature Setting Range	0 to 45 °C (1 °C increments) via PID control heater
Temperature Control Range	Ambient+10 °C to Ambient+25 °C

### OPTICAL COMPONENTS

Measurement System	Deflection type
Light Source Type	Light Emitting Diode (LED)

### POWER REQUIREMENTS

Voltage Requirements	100 – 240 V
Line Frequency	50 – 60 Hz
Power Consumption	80 VA

### PHYSICAL AND ENVIRONMENTAL

Dimensions	56 cm L x 34.5 cm W x 16.8 cm H / 22 in L x 13.5 in W x 6.6 in H
Weight	30 kg / 66 lb
Operating Humidity	35 - 85% non-condensing
Operating Temperature	10 - 30 °C

### FLOW CELLS

Cell Volume	10 $\mu\text{L}$
Pressure Limit	14 psi / 1 bar
Wetted Materials	Quartz glass, fluorine-containing resin, and SUS316

## Consolidated Specifications

MODULE	HEIGHT	WIDTH	DEPTH	WEIGHT	POWER SPECIFICATIONS	POWER CONSUMPTION	BTU PER HOUR	TEMPERATURE RANGE	HUMIDITY RANGE
<b>LC 300 Waste Management Module</b>	6 cm 2.4 in	34.5 cm 13.5 in	56 cm 22 in	5 kg 11 lb	100 to 240 V 50 or 60 Hz	1000 VA Total	4 Total Modules	20 °C - 60 °C	20 - 80% non-condensing
	Maximum stackable weight on top of module 82 kg / 180.8 lb								
<b>LC 300 Analytical Pump</b>	16.8 cm 6.6 in	34.5 cm 13.5 in	56 cm 22 in	20 kg 44 lb	100 to 240 V	120 VA	410 BTU	10 - 15 °C	20 - 80% non-condensing
<b>LC 300 HPLC/UHPLC Pump</b>	16.8 cm 6.6 in	34.5 cm 13.5 in	56 cm 22 in	21 kg 46 lb	100 - 230 V 50 - 60 Hz	450 VA	1535 BTU	10 °C- 40 °C	20 - 80% non-condensing
<b>LC 300 HPLC/UHPLC Autosampler</b>	34.6 cm 13.6 in	34.5 cm 13.5 in	56 cm 22 in	21 kg 46 lb	100 - 240 V 50 - 60 Hz	320 VA	1092 BTU	10 °C- 30 °C	20 - 80% non-condensing
<b>LC 300 Column Oven</b>	58.4 cm 23 in	16.8 cm 6.6 in	56 cm 22 in	16 kg 35 lb	100 - 240 V 50 - 60 Hz	454 VA	1549 BTU	10 °C- 40 °C	20 - 80% non-condensing
<b>LC 300 PDA/MWD Detector</b>	24.1 cm 9.5 in	34.5 cm 13.5 in	56 cm 22 in	19 kg 42 lb	100 - 240 V 50 - 60 Hz	140 VA	478 BTU	10 °C- 35 °C	20 - 80% non-condensing
<b>LC 300 UV/Vis Detector</b>	24.1 cm 9.5 in	34.5 cm 13.5 in	56 cm 22 in	19 kg 42 lb	100 - 240 V 50 - 60 Hz	130 VA	444 BTU	10 °C- 30 °C	20 - 80% non-condensing
<b>LC 300 Fluorescence Detector</b>	29.5 cm 11.6 in	34.5 cm 13.5 in	56 cm 22 in	31 kg 69 lb	100 - 240 V 50 - 60 Hz	230 VA	785 BTU	10 °C- 30 °C	35 - 85% non-condensing
<b>LC 300 Refractive Index Detector</b>	16.8 cm 6.6 in	34.5 cm 13.5 in	56 cm 22 in	30 kg 66 lb	100 - 240 V 50 - 60 Hz	80 VA	273 BTU	10 °C- 30 °C	35 - 85% non-condensing
<b>LC 300 Stand Alone Solvent Organizer</b>	25.4 cm/ 10 in to top of 1 L bottle	34.5 cm 13.5 in	56 cm 22 in	5 kg 11 lb	N/A	N/A	N/A	N/A	N/A